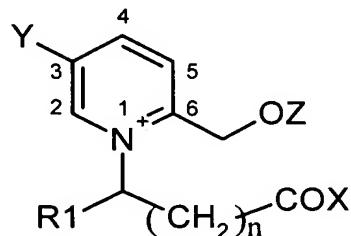


## THE CLAIMS

What is claimed is:

5 1. A Pyridinium-Betain compound having the general formula (A)



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(A)

wherein R1 is H or a primary amino acids that is attached to the structure,

X is OH or its ionised form  $O^-$ ,

Y is OH, SH, or their ionised forms  $O^-$  and  $S^-$ ,

15 Z is H, an alkyl group, or a glycosidic group, or a phosphate or ester derivative thereof, and

n is an integer of 0 to 4 to represent the chain length of the compound.

20 2. The compound of claim 1 wherein a counter-ion of sodium, potassium, ammonium, calcium, magnesium, chloride, nitrate, carbonate, sulphate, or phosphate is associated with the compound.

25 3. The compound of claim 1 wherein R1 is glycine, alanine, valine, leucine, isoleucine, phenylalanine, tryptophan, methionine, serine, threonine, cysteine, tyrosine, asparagine, glutamine, aspartic acid, glutamic acid, lysine, 5-hydroxylysine, ornithine, histidine or arginine.

4. The compound of claim 1, wherein R1 is L-alanine, Y is OH or  $O^-$ , Z is hydrogen, and n is 0.

5. The compound of claim 1, wherein R1 is glycine, Y is OH or O<sup>-</sup>, Z is hydrogen atom, and n is 0.
6. The compound of claim 1, wherein X is an amino acid or oligopeptide, comprising primary and secondary L-amino acids, and is attached via peptide bonds.
7. The compound of claim 1, in the form of its S-isomer.
- 10 8. A food composition comprising a food and a Pyridinium-Betain compound according to claim 1 in a taste effective amount sufficient to enhance sweetness, saltiness or umami taste characteristics of the food or to reduce bitter taste characteristics of the food.
- 15 9. The food composition of claim 8, wherein the food is chocolate, ice-cream, a beverage, a sugar confectionery, a culinary product, or a petfood.
10. The food composition of claim 8, wherein the Pyridinium-Betain compound is present in an amount of between 0.01 and 3000 mg/kg of the composition.
- 20 11. The food composition of claim 8, wherein the compound is in the form of its S-isomer.
12. A method of modifying the flavour of a food composition which comprises adding a Pyridinium-Betain compound according to claim 1 in a taste effective amount sufficient to enhance sweetness, saltiness or umami taste characteristics of the food or to reduce bitter taste characteristics of the food.
- 25 13. The method of claim 11, wherein the food is chocolate, ice-cream, a beverage, a sugar confectionery, a culinary product, or a petfood.
- 30 14. The method of claim 11, wherein the Pyridinium-Betain compound is present in an amount of between 0.01 and 3000 mg/kg of the composition.

15. The method of claim 11, wherein the compound is in the form of its S-isomer.
16. A process for the preparation of a Pyridinium-Betain compound according to claim 1, by synthesis using 5-(hydroxymethyl)-2-furaldehyde (HMF) and the corresponding amino acids or peptides to prepare the Pyridinium-Betain compound.
17. A process for the preparation of a Pyridinium-Betain compound according to claim 1, by reacting a HMF producing precursors and degradation products thereof with a corresponding amino acids or peptides under conditions sufficient to prepare the Pyridinium-Betain compound.
18. The process of claim 16 wherein the HMF precursor is a mono- or polysaccharide.

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